

WHAT IS CLAIMED IS:

1. A metal tube for use in furnaces where gas and liquid formed media is
5 being pressed through such tube from its inlet end to its opposite end while being
subjected to substantial heating and decomposition therefrom, the metal tube
comprising:
a body;
a smooth outer surface; and an inner surface with a profile; wherein the body
10 is made of a stainless iron-nickel-chromium base alloy comprising, in weight%:
max 0.08% C,
23-27% Cr,
33-37% Ni,
1.3-1.8% Mn,
15 1.2-2% Si,
0.08-0.25% N,
0.01-0.15% rare earth metals,
and normal impurities; and
the profile comprises a plurality of valleys or recesses, said valleys or recesses
20 extending longitudinally along the tube, and having a smoothly curved bottom.
2. The tube according to claim 1, wherein each of the plurality of valleys or
recesses are straight whilst extending longitudinally along the tube.
- 25 3. The tube according to claim 1, wherein each of the plurality of valleys or
recesses and each of the plurality of peaks extend helically from an inlet end to an
opposite end of said tube.
4. The tube of claim 1, further comprising a chromium oxide layer on the
30 inner surface.

5. The tube according to claim 1, wherein the amount of rare earth metals is 0.03-0.10%.

6. The tube according to claim 1, wherein the amount of silicon is 1.3-
5 1.8%.

7. The metal tube according to claim 1, wherein the amount of nitrogen is 0.13-0.18%.

10 8. A hydrocarbon cracking furnace comprising a tube according to claim 1.

9. A method of using a metal tube comprising:
forming a tube according to claim 1;
placing the tube in a hydrocarbon cracking furnace; and
15 passing gas and liquid reactants through the tube while heating the tube
to a temperature above 800°C.